

REMARKS

This application was filed April 17, 2001, with claims 1-28. In an Office Action mailed October 19, 2004, claims 1-28 were rejected as being either anticipated by or unpatentable over certain references identified by the Examiner. On April 19, 2005, Applicants filed a response explaining why the pending claims are patentable over the applied art. The Office responded with a second non-final Office Action mailed October 6, 2005, which found Applicants' arguments persuasive. However, this second Office Action objected to the specification, drawings and claims. Claims 1-13, 18 and 24-28 were rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement. Claims 6, 12, 14-23, 27 and 28 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In a response mailed April 6, 2006, Applicants amended the specification and claims and, further, explained how the claims as amended complied with the requirements of 35 U.S.C. § 112.

On July 3, 2006, after the substantial examination of all of claims 1-28 discussed above, the Examiner issued a written restriction requirement asserting that claims 1-17 and 24-28 were drawn to a distinct invention from claims 18-23. On August 3, 2006, Applicants elected the invention of claims 1-17 and 24-28 for further prosecution. On October 18, 2006, the Examiner mailed a third non-final Office Action in which the rejection of claims 1-13 and 24-28 under 35 U.S.C. § 112, first paragraph, was maintained. However, the Examiner indicated that claims 14-17 were allowed. In response, on January 18, 2007, Applicants filed an amendment cancelling the rejected claims to place this application in condition for allowance. In the recent Office Action mailed March 29, 2007, the Examiner rejects the previously allowed claims under 35 U.S.C. § 101.

Applicants January 18, 2007, amendment cancelled claims 1-13 and 18-28 in view of the allowance of claims 14-17. In the present amendment, in view of the recent rejection of claims of 14-17, Applicants reinstate claims 1-13 and 24-28. New claims 29-41 correspond to cancelled claims 1-13. New claims 42-46 correspond to cancelled claims 24-28. This response addresses the rejections presented in both the October 18, 2006, Office Action ("2006 Office Action") and the recent Office Action ("2007 Office Action").

CLAIMS 29-46 COMPLY WITH THE ENABLEMENT REQUIREMENT

Claims 1-13 and 24-26, now claims 29-46, were rejected in the 2006 Office Action under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

In claim 1, lines 8 and 7, "grouping a plurality of roots selected from the set of roots to form a word" is not enabled by the spec. The Examiner is unable to determine from the disclosure how the word is formed, from the roots. More, specifically, in the disclosure, specification, page 6, para [7], lines 1 and 2, "Roots are combined to define words", page 7, para [8] line 6-9, "by combining roots in this multidimensional manner, each value for each field has significant meaning. Each root narrows the meaning of each word, yet each root may be processed in a similar manner and in parallel to extract the meaning of the word". Page 9, [12], line 1, "Each word is comprised of roots that provide meaning to the words.". The Examiner notes that the combined roots do not form a word in any of the broadest sense of interpretation, wherein the forming of a word comprises generating the word and not the definition or meaning or grouped meanings of the word.

2006 Office Action, at 4-5 (brackets in original).

The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable?

M.P.E.P. §2164.01 (8th Ed. Rev. 5, 2006).

The Examiner fails to explain why a person skilled in the art could not make or use the claimed invention without undue experimentation. The claim language is self explanatory. Claim 29 (formally claim 1) sets forth "representing a data concept by grouping a plurality of roots selected from the set of roots to form a word." A person skilled in the art would require no undue experimentation to group roots to form a word as disclosed in the specification. The entire specification is devoted to teaching how words are formed from roots and how roots are formed from fields. The Examiner as quoted above refers to several passages from the specification where Applicants have addressed how to form a word by grouping a plurality of roots. The Summary of the Invention sets forth that the invention provides words that are easily

stored and processed by machine. Spec., Summary of the Invention ¶ 1. "Each word includes a number of word roots selected from a set of word roots." Spec. Summary of the Invention ¶ 2. "Each root combined to form a word represents a particular characteristic of the word." Spec. Summary of the Invention ¶ 3. Figure 1 of the drawing illustrates a string of bits representing a word in which the bits are divided in to groups that represent the roots which form the word. Given this disclosure Applicants do not understand why the Examiner is unable to determine how the word is formed from the roots. However, the disclosure in the specification enables one skilled in the art to form a word as claimed without undue experimentation.

The Specification further describes how the words are processed and stored by computer.

The vocabulary is formed of words represented in digital form and having a length chosen as the number of bits in the register of the processor. Each word has a similar form. In the preferred embodiment the words each include five eight-bit definition roots, an eight bit connotative root, six one bit negation indicators, and a further ten bits used for other indicators.

Spec. Detailed Description of the Preferred Embodiments ¶ 14. Thus, the specification discloses forming a word by setting bits in a register to represent a plurality of eight bit roots. Roots are selected by looking up the definition of the word in a root taxonomy. Spec. Detailed Description of the Preferred Embodiments ¶ 16. There is no reason that one skilled in the art would require any undue experimentation to program a computer to form words by grouping a plurality of roots selected from a set of roots in view of this disclosure.

The Examiner asserts: "the combined roots do not form a word in any of the broadest sense of interpretation, wherein the forming of a word comprises generating the word and not the definition or meaning or grouped meanings of the word." 2006 Office Action at 3-4. The Examiner fails to appreciate the significance of the invention. As described above, the word is represented by a string of bits that are grouped to represent a plurality of roots. The roots are selected to represent characteristics of the word. The combined roots thus do form a word as disclosed in the specification. The significance of the invention is that the basic elements (bits) that make up a word of the present invention are selected to indicate the meaning of the word. This is in contrast to conventional language in which the basic elements (letters) are selected to

indicate the pronunciation of the word. Thus, in the present invention, unlike in tradition language, forming a word also forms the definition or meaning of the word. The word of the present invention is formed in direct relation to the meaning of the word by selecting roots that represent particular characteristics of the word. It is this direct relationship between the bits of the word and its meaning that facilitate the machine processing and storage of the words provided by the invention.

Applicants submit that the specification does describe the subject matter contained in claim 29 (formerly claim 1) in such a way as to enable one skilled in the art to which it pertains to, or with which it is most nearly connected, to make and/or use the invention. Claims 18 and 24-27 (claim 18 has been withdrawn and cancelled, claims 24-27 are now claims 42-45) were rejected for the same reason and under the same rationale as claim 1, now claim 29. Claim 42 (formerly claim 24) sets forth "combining a plurality of the word roots to form a word, each word root forming the word representing a characteristic of the word." The specification describes claim 42 in such a way as to enable one skilled in the art to make and/or use the invention for the reasons set forth above with respect to claim 29. Claims 43-45 (formerly claims 25-27) depend from claim 42 (formerly claim 24). The Examiner has identified no additional limitations set forth in claims 43-45 that are not fully enabled by the specification. Claims 2-7 and 28, now claims 30-35 and 46, were rejected as being dependent upon their rejected parent claims. Applicants submit that parent claims 29 and 42 (formerly claims 1 and 24) are enabled by the specification for the above reasons.

The Examiner asserts that in claim 8, now claim 36, the term "dividing all knowledge" is without bound. 2006 Office Action at 4. New claim 36 replaces the term "dividing all knowledge" with the term "dividing knowledge." Applicants respectfully submit that new claim 36 and claims 37-41 depending therefrom are fully enabled by the specification.

For the above reason, Applicants respectfully submit that claims 29-46 are fully enabled by the specification.

CLAIMS 14-17 ARE DIRECTED TO STATUTORY SUBJECT MATTER

Claims 14-17 stand rejected under 35 U.S.C. § 101 because it is asserted that the claimed invention is directed to non-statutory subject matter. 2007 Office Action at 2. The Examiner asserts: "Claim 14 merely cites functional descriptive material, computer program per se, without any proper embodiment." Claim 14 is herein amended to include "a machine readable medium on which is stored a data structure." Claim 14 as amended is thus directed to a machine, manufacture or composition of matter as opposed to an abstract idea, law of nature, or natural phenomenon. As amended, claim 14 does cite a proper embodiment, Applicants request that the rejection of claim 14 be withdrawn.

Even if the data structure set forth by claim 14 is considered to be an abstract idea, law of nature or natural phenomenon, the inquiry under 35 U.S.C. § 101 is not completed. "While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, . . . products employing abstract ideas, natural phenomena, and laws of nature to perform a real-word function may well be." M.P.E.P. § 2106 IV.C.

A claimed invention is directed to a practical application of a 35 U.S.C. § 101 judicial exception when it:

(A) "transforms" an article or physical object to a different state or thing; or

(B) otherwise produces a useful, concrete and tangible result.

M.P.E.P. § 2106 IV.C.2. "If USPTO personnel determine that the claim does not entail the transformation of an article, then the USPTO personnel shall review the claim to determine it produces a useful, tangible and concrete result." M.P.E.P. § 2106 IV.C.2.(2). Thus, the "mere arrangement/manipulation of data" referred to by the Examiner may produce a useful, tangible and concrete result. The Examiner provides no explanation as why the data structure as set forth by claim 14 does not produce a useful, tangible and concrete result. Thus, the Examiner has provided insufficient reasons to sustain the rejection under 35 U.S.C. § 101.

As disclosed in the specification, words of a vocabulary having the properties of the claimed invention are easily stored and processed by a computer.

The vocabulary with these properties is versatile in that it enables all concepts to be represented by a series of fields that are easily stored and processed by computer. Each of the fields provides meaning to the concept and can be processed and manipulated to provide the meaning of the concept. The meanings of each root of a word are commonly independent of one another and thus may be processed independently. This independent processing of roots allows for fast processing as well as for subtlety in the definition of the word.

Spec. Summary of the Invention ¶ 6. The data structure does in fact produce a useful, tangible and concrete result. Accordingly, there is no basis upon which to reject claim 14 under 35 U.S.C. § 101.

Claims 15-17 depend from claim 14. Applicants submit that these dependent claims are directed to statutory subject matter for the reasons set forth above with respect to claim 14. Applicants respectfully request that the rejection of claims 14-17 under 35 U.S.C. § 101 be withdrawn.

CONCLUSION

In view of the above amendment, applicants believe the pending application is in condition for allowance. Applicants request reconsideration in view of the above amendment and arguments. Please charge any fees due with this amendment to the undersigned's deposit account number 07-1700. The Examiner is invited to contact the undersigned to address any issues that may advance the prosecution of this application.

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Respectfully submitted,

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